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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,213	06/26/2003	Chun-Kyu Woo	P23884	3734
7055	7590	08/23/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			MARC, MCDIEUNEL	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/606,213

**Applicant(s)**

WOO ET AL.

**Examiner**

McDieunel Marc

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 5/31/2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-30 is/are allowed.
- 6) ☒ Claim(s) 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 16-31 are pending.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 31 is rejected under 35 U.S.C. 102(e) as being anticipated by Jones et al (U.S. PG. Pub. No. 20040187249 A1).

As per claim 31, Jones et al. teaches in sections [0026] Referring now to the drawings where like reference numerals identify corresponding or similar elements throughout the several views, FIG. 1 is a schematic representation of an autonomous floor-cleaning robot 10 according to the present invention. The robot 10 comprises a housing infrastructure 20, a power subsystem 30, a motive subsystem 40, a sensor subsystem 50, a control module 60, a side brush assembly 70, and a self-adjusting cleaning head subsystem 80. The power subsystem 30, the motive subsystem 40, the

sensor subsystem 50, the control module 60, the side brush assembly 70, and the self-adjusting cleaning head subsystem 80 are integrated in combination with the housing infrastructure 20 of the robot 10 as described in further detail in the following paragraphs. Also in section [0027] In the following description of the autonomous floor-cleaning robot 10, use of the terminology "forward/fore" refers to the primary direction of motion of the autonomous floor-cleaning robot 10, and the terminology fore-aft axis (see reference characters "FA" in FIGS. 3A, 3B) defines the forward direction of motion (indicated by arrowhead of the fore-aft axis FA), which is coincident with the fore-aft diameter of the robot 10. Jones further teaches in section [0028] Referring to FIGS. 2, 2A, and 3A-3C, the housing infrastructure 20 of the robot 10 comprises a chassis 21, a cover 22, a displaceable bumper 23, a nose wheel subassembly 24, and a carrying handle 25. The chassis 21 is preferably molded from a material such as plastic as a unitary element that includes a plurality of preformed wells, recesses, and structural members for, inter alia, mounting or integrating elements of the power subsystem 30, the motive subsystem 40, the sensor subsystem 50, the side brush assembly 70, and the self-adjusting cleaning head subsystem 80 in combination with the chassis 21. The cover 22 is preferably molded from a material such as plastic as a unitary element that is complementary in configuration with the chassis 21 and provides protection of and access to elements/components mounted to the chassis 21 and/or comprising the self-adjusting cleaning head subsystem 80. The chassis 21 and the cover 22 are detachably integrated in combination by any suitable means, e.g., screws, and in combination, the chassis 21 and cover 22 form a structural envelope of minimal height having a generally

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cylindrical configuration that is generally symmetrical along the fore-aft axis FA. Which equates to a body of cleaning robot comprising a sensor assembly mounted for rotation about a generally vertical axis, said sensor assembly being installed at a top of a cleaner body to sense the surroundings of the cleaner; a sensor assembly receiving portion provided in the body of the cleaner so as to receive the sensor assembly', and a sensor advancing and retracting unit formed adjacent a side of the sensor assembly receiving portion, said sensor advancing retracting unit including a motor coupled to the sensor assembly to move the sensor assembly between an advanced position in which the sensor assembly is operative to sense the surroundings and a retracted position in which the sensor assembly is retracted within the receiving portion (see figs. 1-4B and pages 2-9).

***Allowable Subject Matter***

4. Claims 16-30 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or fairly suggest with respect to claim 16; a position information recognition apparatus for a cleaning robot further includes a moving unit configured to move the rotational cylinder up and down between retracted and elevated positions.28, a robot cleaning system wherein a rack engaged with the pinion

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and being linearly moveable upwardly and downwardly in accordance with a rotational direction of the pinion', and a sensor surrounding plate secured for movement integrally with the rack and secured to a mounting plate of the sensor assembly in combination with the other features of the claimed invention.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (571) 272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
McDieunel Marc

Friday, August 19, 2005  
MM/